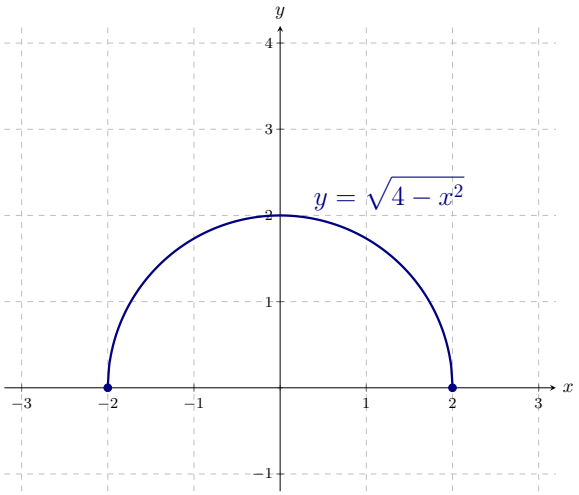
If R is a positive constant, then the graph of $y = \sqrt{R^2 - x^2}$ is the top half of the circle of radius R centered at the origin.

As an example, this is graphed below for $R = 2$.



Exercise 1 *The domain of the function* $\sqrt{4 - x^2}$ *is* $[\boxed{-2}, \boxed{2}]$ *and the range is* $[\boxed{0}, \boxed{2}]$.

Hint: *This is exactly the function graphed above.*

Exercise 1.1 *The domain of the function* $\sqrt{25 - x^2}$ *is* $[\boxed{-5}, \boxed{5}]$ *and the range is* $[\boxed{0}, \boxed{5}]$.

Hint: *This is* $\sqrt{R^2 - x^2}$ *for* $R = 5$. *The graph of this function is a circle with what radius?*

Exercise 1.1.1 *The domain of the function* $\sqrt{R^2 - x^2}$ *is* $[\boxed{-R}, \boxed{R}]$ *and the range is* $[\boxed{0}, \boxed{R}]$.

Hint: *The graph of this function is a circle with what radius?*